

## SEQUENCE LISTING

<110> American Cyanamid Company

<120> Vaccines Containing Recombinant Pilin Against Neisseria Gonorrhoeae or Neisseria Meningitidis

<130> 33377-00/PCT

<140>

<141>

<160> 24

<170> PatentIn Ver. 2.0

<210> 1

<211> 504

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Chimeric of Neisseria Meningitidis Class I and Neisseria Gonorrhoeae

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<221> CDS

<222> (1)...(501)

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atc gcc atc gtc ggc att ttg gcg gca gtc gcc ctt ccc gcc tac caa 96  
Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln  
20 25 30

gac tac acc gcc cgcc gca gtt tcc gaa gcc atc ctt ttg gcc gaa 144  
Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Ala Glu  
35 40 45

ggc caa aaa tca gcc gtt acc gag tat tac ctg aat cac ggc gaa tgg 192  
Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp  
50 55 60

ccc ggc aac aac act tct gcc ggc gtg gca tct tct tca aca atc aaa 240

Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Ser Ser Ser Thr Ile Lys					
65	70	75	80		
ggc aaa tat gtt aag gaa gtt aca gtc gca aac ggc gtc att acc gcc					288
Gly Lys Tyr Val Lys Glu Val Thr Val Ala Asn Gly Val Ile Thr Ala					
85	90	95			
aca atg ctt tca agc ggc gta aac aaa gaa atc caa ggc aaa aaa ctc					336
Thr Met Leu Ser Ser Gly Val Asn Lys Glu Ile Gln Gly Lys Lys Leu					
100	105	110			
tcc ctg tgg gcc aag cgt caa gac ggt tcg gta aaa tgg ttc tgc gga					384
Ser Leu Trp Ala Lys Arg Gln Asp Gly Ser Val Lys Trp Phe Cys Gly					
115	120	125			
cag ccg gtt acg cgc acc gac gcc aaa gcc gac acc gtc gcc gcc gcc					432
Gln Pro Val Thr Arg Thr Asp Ala Lys Ala Asp Thr Val Ala Ala Ala					
130	135	140			
gcc aag acc gcc gac aac atc aac acc aag cac ctg ccg tca acc tgc					480
Ala Lys Thr Ala Asp Asn Ile Asn Thr Lys His Leu Pro Ser Thr Cys					
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cgc gac gca agt gat gcc agc taa					504
Arg Asp Ala Ser Asp Ala Ser					
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20	25	30			
Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu					
35	40	45			
Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp					
50	55	60			
Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Ser Ser Ser Thr Ile Lys					
65	70	75	80		

Gly Lys Tyr Val Lys Glu Val Thr Val Ala Asn Gly Val Ile Thr Ala  
85 90 95

Thr Met Leu Ser Ser Gly Val Asn Lys Glu Ile Gln Gly Lys Lys Leu  
100 105 110

Ser Leu Trp Ala Lys Arg Gln Asp Gly Ser Val Lys Trp Phe Cys Gly  
115 120 125

Gln Pro Val Thr Arg Thr Asp Ala Lys Ala Asp Thr Val Ala Ala Ala  
130 135 140

Ala Lys Thr Ala Asp Asn Ile Asn Thr Lys His Leu Pro Ser Thr Cys  
145 150 155 160

Arg Asp Ala Ser Asp Ala Ser  
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<212> DNA  
<213> Artificial Sequence
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<220>

<223> Description of Artificial Sequence:Chimeric of  
Neisseria Meningitidis Class II and Neisseria  
Gonorrhoeae

<220>

<221> CDS

<222> (1) .. (510)

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1 5 10 15

atc gcc atc gtc ggt atc ttg gca gcc gtc gtc gcc ctg ccc gca tac caa 96  
Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln  
20 25 30

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gac tac acc gcg cgc gcc caa atg tcc gaa gcc ctg act ttg gca gaa 144
Asp Tyr Thr Ala Arg Ala Gln Met Ser Glu Ala Leu Thr Leu Ala Glu
          35           40           45

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ccg aac agc aat act tcc gca ggt att gct gcc tct aac gag att aaa				240
Pro Asn Ser Asn Thr Ser Ala Gly Ile Ala Ala Ser Asn Glu Ile Lys				
65	70	75		80
ggt aag tat gtg gca tcg gtt aag gtt gaa ggt aat gcc tct gtt gct				288
Gly Lys Tyr Val Ala Ser Val Lys Val Glu Gly Asn Ala Ser Val Ala				
85	90	95		
tct att acc gct acc atg aac tct agt aat gtg aat aag gac atc aaa				336
Ser Ile Thr Ala Thr Met Asn Ser Ser Asn Val Asn Lys Asp Ile Lys				
100	105	110		
ggt aaa acc ttg gta ctc gtc ggc aaa caa aac tcc ggt tcg gta aaa				384
Gly Lys Thr Leu Val Leu Val Gly Lys Gln Asn Ser Gly Ser Val Lys				
115	120	125		
tgg ttc tgc gga cag ccg gtt acg cgc gac aac gcc gac aac gac gac				432
Trp Phe Cys Gly Gln Pro Val Thr Arg Asp Asn Ala Asp Asn Asp Asp				
130	135	140		
gtc aaa gac gcc ggc aac aac ggc atc gaa acc aag cac ctg ccg tca				480
Val Lys Asp Ala Gly Asn Asn Gly Ile Glu Thr Lys His Leu Pro Ser				
145	150	155		160
acc tgc cgc gat acg tca tct gat gcc aaa				510
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Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln				
20	25	30		
Asp Tyr Thr Ala Arg Ala Gln Met Ser Glu Ala Leu Thr Leu Ala Glu				
35	40	45		
Gly Gln Lys Ser Ala Val Ile Glu Tyr Tyr Ser Asp Asn Gly Thr Phe				

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55

60

Pro Asn Ser Asn Thr Ser Ala Gly Ile Ala Ala Ser Asn Glu Ile Lys  
 65                   70                   75                   80

Gly Lys Tyr Val Ala Ser Val Lys Val Glu Gly Asn Ala Ser Val Ala  
 85                   90                   95

Ser Ile Thr Ala Thr Met Asn Ser Ser Asn Val Asn Lys Asp Ile Lys  
 100                 105                 110

Gly Lys Thr Leu Val Leu Val Gly Lys Gln Asn Ser Gly Ser Val Lys  
 115                 120                 125

Trp Phe Cys Gly Gln Pro Val Thr Arg Asp Asn Ala Asp Asn Asp Asp  
 130                 135                 140

Val Lys Asp Ala Gly Asn Asn Gly Ile Glu Thr Lys His Leu Pro Ser  
 145                 150                 155                 160

Thr Cys Arg Asp Thr Ser Ser Asp Ala Lys  
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&lt;211&gt; 30

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&lt;213&gt; Neisseria gonorrhoeae

&lt;400&gt; 5

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&lt;210&gt; 6

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Neisseria gonorrhoeae

&lt;400&gt; 6

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&lt;212&gt; DNA

&lt;213&gt; Neisseria gonorrhoeae

&lt;400&gt; 7

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<400> 18

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<210> 19

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<400> 19

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<210> 20

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<212> DNA

<213> Neisseria Meningitidis Class II

<400> 20

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<210> 21

<211> 33

<212> DNA

<213> Neisseria gonorrhoeae

<400> 21

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<210> 22

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<212> DNA

<213> Neisseria gonorrhoeae

<400> 22

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<210> 23

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<400> 23

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<210> 24

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<212> PRT

<213> Neisseria gonorrhoeae

<400> 24

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Tyr Leu Asn His Gly Lys  
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